Hewlett Packard Enterprise

HPE SimpliVity 380 Gen11 Server Installation and Maintenance Guide

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Acknowledgments

Support

All documentation and knowledge base articles are available on HPE InfoSight at **https://infosight.hpe.com**. To register for HPE InfoSight, click the *Sign up* link on the HPE Sign In page.

Email: **support@nimblestorage.com**

For all other general support contact information, go to **https://www.hpe.com/us/en/services/nimble-storage.html**.

Contents

Component identification

This section contains the following topics:

This section provides an overview of the HPE SimpliVity 380 Gen11 server (components and specifications) configured for deployment into an HPE OmniStack federation.

For complete information about the server, refer to the HPE SimpliVity 380 Gen11 documentation included with your server or available from the Customer Support (**https://www.hpe.com/support/hpesc**) website.

Server components

HPE SimpliVity 380 server models are available in various configurations based on storage capacity. See the QuickSpecs for detailed system configuration options.

Processor	Model	Intel Xeon 4th Generation Scalable Processor Family - (Sapphire Rapids)
	Processor count	1 or 2
Platform drive configuration	Drive size and number per platform configuration: HPE SimpliVity 380 Gen11 7.5 TB: 6 x 1.92 TB SSD (FTT1 and FTT2) HPE SimpliVity 380 Gen11 10 TB: 8 x 1.92 TB SSD (FTT1) HPE SimpliVity 380 Gen11 10 TB: 9 x 1.92 TB SSD (FTT2) HPE SimpliVity 380 Gen11 15 TB: 12 x 1.92 TB SSD (FTT1 and FTT2) HPE SimpliVity 380 Gen11 21 TB: 16 x 1.92 TB SSD (FTT1) HPE SimpliVity 380 Gen11 15 TB: 6 x 3.84 TB SSD (FTT1 and FTT2) HPE SimpliVity 380 Gen11 21 TB: 8 x 3.84 TB SSD (FTT1) HPE SimpliVity 380 Gen11 21 TB: 9 x 3.84 TB SSD (FTT2) HPE SimpliVity 380 Gen11 32 TB: 12 x 3.84 TB SSD (FTT1 and FTT2) HPE SimpliVity 380 Gen11 43 TB: 16 x 3.84 TB SSD (FTT1)	
Drive form factor		2.5" small form factor (SFF)

Table Continued

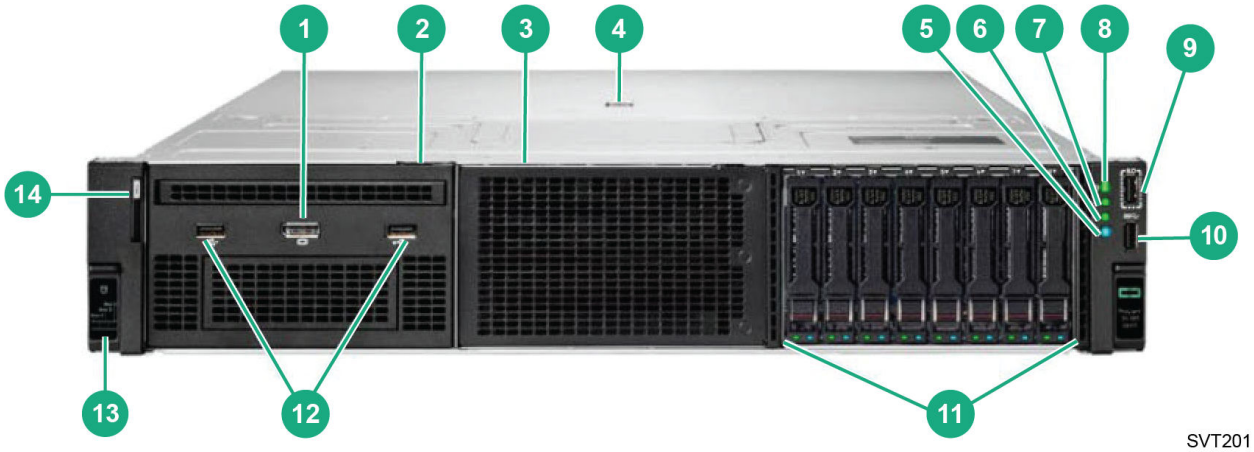
RAID type		HPE SimpliVity 380 Gen10 Plus family utilizes tiered storage consisting of RAID10/RAID10Triple and RAID5/ RAID6. RAID configuration depends on drives count and deployment time selection of Protection against drives failures. • 6, 8, 9, 12, and 16 drive configurations (1.92 TB and 3.84 TB) : RAID10 and RAID5 (shared drives RAID configuration (FTT1 / single drive resiliency) • 6, 9, and 12 drive configurations (1.92 TB and 3.84 TB) : RAID10 Triple and RAID6 (shared drives RAID configuration (FTT2 / dual drives resiliency)
Boot drives	Quantity	2
	Capacity	480 GB
	Interface	SATA
Memory options	Capacity	128 GB to 8 TB per node (4 TB per CPU)
Power supply		Two power supplies are required to provide High Available power. Supported power supply options include: • 800W (100-240V AC) • 1000W (100-240V AC) • 1600W (200-240V AC) • 1800-2200W (200-240V AC) • 1600W (48V DC) Some configurations require 1600W or higher power supplies. Includes the option to use 1000W (100 - 240V AC) power supply where HPE power adviser recommendation yields power sizing just above 800W.

Table Continued

Required network adapters		Option to use OCP 3.0 x8 and PCIe NICs. Supported network adapters - 1 GbE, 10 GbE, 10/25 GbE, or 100 GbE for both OCP and PCIe form factors. 200 GbE network adapter is supported only in PCIe form factor **NOTE:** A 4-port 1 GbE network adapter is required if your environment uses a 1 GbE network for federation management.
Expansion slots		Choice of PCIe 5.0 and OCP 3.0 slots available depending on riser selection and number of sockets. Up to 3 PCIe 5.0 slots for single socket configurations. Up to 8 PCIe 5.0 slots for dual socket configurations. Up to 2 OCP 3.0 slots with single and dual socket configurations. Refer to the QuickSpec for the latest supported options.
Deduplication and compression		Software optimized only.
Remote server management	iLO Integrated Lights-Out processor and network port for remote, out-of-band, web-based management.	

Front panel components

The HPE SimpliVity 380 Gen11 front panel provides server controls, diagnostic indicators, video ports, USB connectors, and contains the data drives.



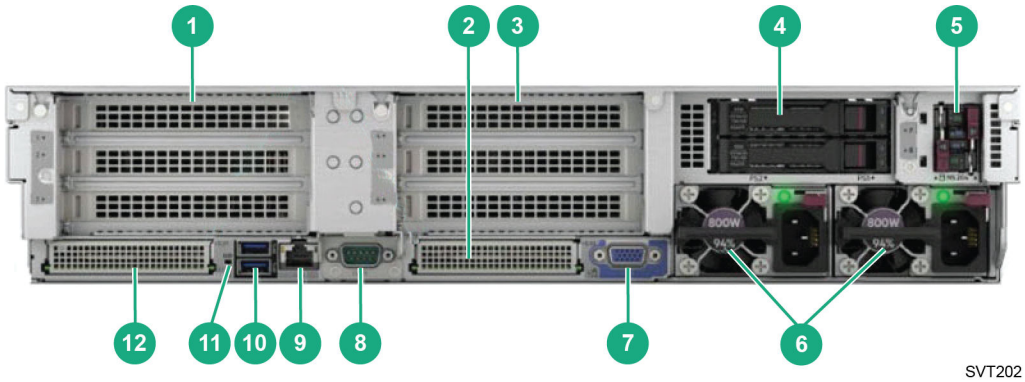
Callout	Item	Description
1	Display Port	Optional Front Display Port (via Universal Media Bay)
2	Box 1	Box 1 shown with optional Universal Media Bay installed
3	Box 2	Box 2 shown blank
4	Quick access cover	Provides access to internal components.
5	UID button/LED	• Solid blue = Activated • Flashing blue: ◦ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress. ◦ 4 Hz/cycle per sec = iLO manual reboot sequence initiated. ◦ 8 Hz/cycle per sec = iLO manual reboot sequence in progress.
6	NIC status LED	• Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity
7	Health LED	• Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical **NOTE:** If the Health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.

Table Continued

Callout	Item	Description
8	Power On/Standby button and system power LED	• Solid green = System on test • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present **NOTE:** Power LED off can indicate facility power is not present, power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.
9	iLO service port	iLO service port
10	USB port	USB 3.2 Gen1 port
11	Box 3	Box 3 (shown populated with 8SFF drives)
12	Optional USB 2.0 (via Universal Media Bay)	Optional USB 2.0 port (via Universal Media Bay).
13	Drive support label	Label that describes the server drive configuration
14	Serial number label pull tab	Provides server identification information that might be required when contacting Customer Support (**https://www.hpe.com/support/hpesc**).

NOTE: When the Power, Health, NIC status, and UID LEDs flash simultaneously, a power fault has occurred. For more information, see "Power fault LEDs" in the *HPE ProLiant DL380 Gen11 Server User Guide*.

Back panel components



Callout	Item	Description
1	Primary Riser	Primary Riser, PCIe slots (slots 1-3)
2	OCP 3.0 Slot 1	OCP 3.0 Slot 1 (preferred for OCP NICs). 1 GbE, 10 GbE, 10/25 GbE. 100 GbE x8 OCP 3.0 NICS can be installed in the OCP port. No OCP enablement kit is required.
3	Secondary Riser	Secondary Riser, PCIe slots (slots 4-6)
4	Tertiary Riser	Tertiary Riser (slots 7-8) shown with optional 2SFF drive cage installed
5	Boot device	Optional NS204i-u boot device
6	Dual power supplies	Dual Power Supplies for HA power. Power supply options include 800 W (100-240V AC), 1000 W (100-24V AC), 1600 W (240V AC), or 1800-2200 W (240V AC). Includes the option to use 1000W (100-240V AC) power supply where HPE power adviser recommendation yields power sizing just above 800W.
7	Video port	Use to connect a VGA monitor for local access.
8	Serial port	Optional serial port connector
9	iLO management port	Dedicated iLO management port
10	USB connectors	Dual USB 3.2 Gen1 connectors to enable you to connect a USB device such as a mouse or keyboard.
11	UIB indicator LED	UIB indicator LED
12	OCP 3.0 Slot 2	OCP 3.0 Slot 2 (preferred for OROC storage controller). On single socket configurations, the slot is available only if "CPU1 to OCP2 x8 enablement kit is selected". This slot can be used for installation of OROC storage controller, that is, MR416i-o or an optional second OCP NIC.

Specifications

There are optimum environment and technical specifications for the HPE SimpliVity 380 Gen11 server. The specifications help you when planning the appropriate installation location, environmental conditions, and resources such as power and cooling. See the product QuickSpecs for the latest information on system specifications.

Vibration and shock

The server configured for deployment in a HPE OmniStack federation does not exceed the vibration and shock limit specifications for a fully-configured server.

Agency compliance

An HPE SimpliVity 380 Gen11 server, when configured for deployment in an HPE OmniStack federation, meets the same compliance standards as a standard HPE ProLiant DL380 Gen11 server.

Component upgrades

If you need to upgrade the server components, contact Customer Support (**https://www.hpe.com/support/hpesc**).

WARNING: Never install additional options other than those approved for installation by Customer Support (**https://www.hpe.com/support/hpesc**). Doing so will void your warranty and might cause serious server instability and potential data loss.

Firmware revisions

HPE OmniStack software requires that each supported platform is running a specific firmware revision.

To avoid compatibility issues, contact Customer Support (**https://www.hpe.com/support/hpesc**) before making any firmware changes.

NOTE: If your server, or any management software, has automatic software updates enabled, disable this feature to avoid installing unsupported firmware revisions.

Install the server components

This section contains the following topics:

To install the server components, you must unpack all components, install the server in a rack, connect the power and network cables, and power on the system.

Electrostatic discharge

You must protect sensitive components from electrostatic discharge (ESD).

To protect components from ESD:

- Ensure the component is fully grounded at all times to prevent damage from electrostatic discharge.
- When not installed in a rack, store server components in the original packaging or place on a sturdy surface that is protected from electrostatic discharge.
- When handling server components, always use the electrostatic wrist strap provided or a similar form of ESD protection.

Shipping carton contents

The shipping carton contains standard items and other items based on your configuration.

Part	Description
Server	Provides processing power and storage capacity.
Bezel (optional)	Protects the SSD and HDD drives in the front panel.
Power cords	• Two standard power cords. • Two IEC C13/C14 (PDU) cords. Power cords shipped with the server depend on the shipped-to country and geography.

Table Continued

Part	Description
Rack-mounting hardware (optional)	Contains the left and the right rails and detailed installation documentation.
Cable Management Arm (CMA) kit (optional)	Contains the CMA assembly and installation documentation.
Printed documentation	• Hardware Installation Quick Start • Configuration and Deployment Quick Start • Product Information Guide (safety and regulatory notices) • End User License Agreement

Components not supplied in the shipping carton

Your network environment might require additional components not supplied in the shipping carton.

Component	Description	Application
Rack	19 inch (48.3 cm), four-post, toolless rack	Provides easy access to the server components in your computing environment.
1 GbE data cables	Two Category 5E or Category 6 cables with RJ45 connectors. An optional third cable is required to use the iLO port for remote console access.	If your server provides a 1 GbE network interface for federation management, these cables are required to connect the 1 GbE network interfaces on each server to a 1 GbE switch. This is required only if you are connecting the 1 GbE network interfaces on each server to a switch, such as in a direct connected or switch-connected network configuration, for example.
10 GbE, 10/25 GbE, 100 GbE, or 200 GbE DAC cables	Two SFP+ Direct Attach Cables for the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE, or two Cat-6a or higher cables depending on adapter selection.	Connects the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces on one server to an appropriate switch.
10 GbE, 10/25 GbE, 100 GbE, 200 GbE Active Optical Cables (AOCs) or transceivers	SFP+, QSFP+, QSFP28 transceivers or Active Optical Cables (AOCs) for the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces on one server to an appropriate switch.	Connects the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces on one server to an appropriate switch.
Redundant network switches	Required number of switches.	Connects devices to a network. The number of switches depends on your network configuration.
Redundant Uninterruptible Power Supply (UPS)	Required number of UPS devices.	Provides temporary power to the server in the event of a complete power outage.

Rack requirements

Each server ships with rack-mounting hardware. The sliding rails allow you to fully extend the system out of the rack for service.

CAUTION: See the Rack Installation Instructions supplied with the rack mount kit for safety and installation instructions.

The racks you use for each server must meet these requirements:

- The sliding rails support tool-free mounting in 19-inch, EIA-310-E compliant square-hole, 4-post racks, and also support tooled mounting in threaded 4-post racks.
- Each server is 2U. Ensure the rack has sufficient space for all systems.
- For full power redundancy across all servers, you need a rack with two power distribution units (PDU) feeding separate outlet strips, with sufficient vacant outlets on each strip.
- Ensure the rack is installed and stabilized or bayed according to the manufacturer's instructions.

WARNING: When servicing a server in a rack, extend only one server at a time to prevent the rack from tipping.

Rack installation guidelines

There are guidelines to help you successfully install each server in a rack.

- Follow all safety guidelines stated in the documentation that came with the rack, particularly when installing components into the locations at the top of the rack.
- Ensure the rack meets the requirements.
- Install the servers in the same rack when possible.
- Install the servers in a rack starting from the bottom of the rack.
- Always install the servers in a horizontal position, or you void your warranty and support contract.

Install the server in a rack

About this task

You install the rails and, optionally, the Cable Management Arm (CMA), which are included in the shipping carton with installation instructions, at the lowest available U space in the rack. You then work up from the bottom of the rack to add additional rails. With the rails installed, you can then mount each server into the rails.

CAUTION: Two people are required to safely install the server hardware in a rack. The Rack Installation Instructions included in the rack mount kit box contains important safety and procedural information.

Prerequisites

- You have read the safety instructions in the *Product Information Guide* supplied with your server.
- You have read the *Rack Installation Instructions*, included in the rack mount kit in the shipping carton, for installing the left and right rails in the rack. The rack mount kit instructions also explain how to stabilize the rack, install devices, and configure power distribution.

Procedure

1. Install the left and right inner slide rails on the server:
   a. Position the keyhole rail cutouts over the lugs on the server sides.
   b. Slide the rails toward the rear of the server to lock them in place.
2. Install the slide mounting brackets into the rack:
   a. Align the front lugs in the appropriate rack location.
   b. Slide the rear lugs into position from the rear of the rack.

   NOTE: Use the appropriate rack mounting hardware based on whether the rack has square, round, or threaded holes.

   The side slide mounting brackets are stamped front left and front right. Ensure that the brackets are positioned correctly (as viewed from the front of the rack).
3. Align the server slide rails with the side slide mounting brackets and then insert the server into the rack until the rails lock in place and the server is fully inserted into the rack.

What to do next

You can now connect the power cables to the server.

Connect the power cables

About this task

Each system includes two, hot plug, 800W, 1000W, 1600W, or 1800-2200W power supplies, numbered PS1 and PS2, from right to left. You connect both power supplies to power sources.

For high availability, you connect each power supply to a different circuit. You can also use redundant, Uninterruptible Power Supply (UPS) systems to protect against a complete power outage.

Procedure

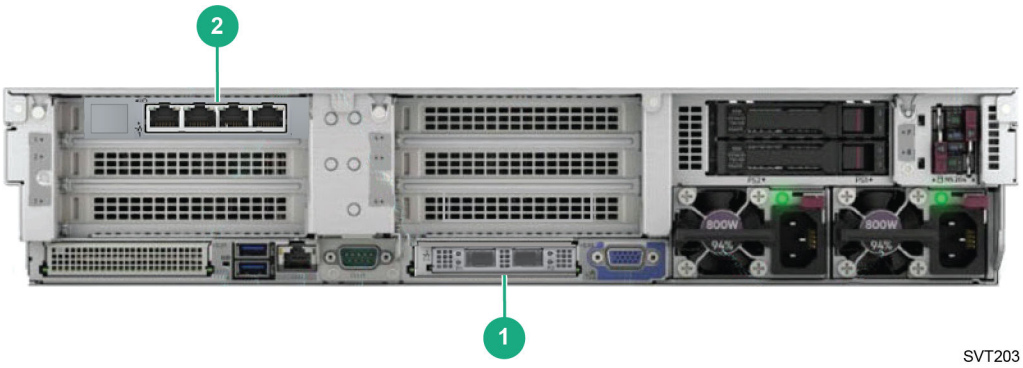
1. Obtain the two power cables from the shipping carton.
2. Connect the power cables to power supply units on each system.
3. Connect the other end of each power cable to a power source, preferably on different circuits.
4. Use the cable strain relief on each power supply to secure the power cable and prevent an accidental disconnection.

Connect the network cables

About this task

This system utilizes a pair of 10 GbE, 10/25 GbE, or 100 GbE network interfaces for redundant Management, Storage, and Federation network traffic. Some configurations use a separate 1 GbE set of redundant interfaces to segregate the Management traffic for better performance and higher security. The 1 GbE network interface is available during model selection and not available with all system configurations. A second high speed NIC may also be used for the Virtual Machine guest network traffic when additional bandwidth is required for the VMs running in the environment or for network card hardware redundancy of the Storage and Federation networks.

With the wide variety of network configurations available, your network cards might be in different locations, however the typical layout for the network ports when viewing the server from behind is:



1. The SFP+/SFP28/QSFP28 ports below the middle expansion slots are OCP 3.0 NIC ports and provide high speed connectivity for the HPE OmniStack Federation and Storage networks when the appropriate OCP 3.0 x8 slot network adapter is selected. Management traffic can also be run through these connections on a separate VLAN if a gigabit network card is not selected.
2. The RJ-45 Base-T NIC ports seen in the upper left Slot 1 Riser 1 contains the 4-port gigabit adapter typically used for connecting to the HPE OmniStack Management network.

Procedure

1. Connect the cables according to the guidelines for the HPE SimpliVity 380 Gen11 networks only.
2. **CAUTION:** If the optional interfaces are connected when you deploy the server, the ports for the Federation network might not be configured correctly. For help with resolving this error, contact Customer Support (**https://www.hpe.com/support/hpesc**).

   Ensure that no other network interfaces, such as optional 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces, are connected to your network before deploying the server to a federation. Connect the optional network interfaces after deployment.

Federation networks

There are minimum recommended network configurations for setting up a properly functioning federation.

NOTE: A network configuration is a complex and integral part of any networked storage solution. This topic does not attempt to describe all possible network configurations.

A federation uses the following three networks, which you can separate physically or by using VLANs:

Storage network	10 GbE, 10/25 GbE, 100 GbE, or 200 GbE network used for storage data traffic. You connect the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE network interfaces on each server in a federation datacenter or cluster to a switch. Optionally, you can connect the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces from one server in a federation datacenter or cluster to the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces on another server in the same federation datacenter or cluster to create a direct-connected configuration.
Federation network	10 GbE, 10/25 GbE, 100 GbE, or 200 GbE network used for communication between Virtual Controllers in a federation datacenter or cluster, and does not route to remote datacenters or clusters. No guest virtual machines use this network. This network requires a port group on the same network as the Storage network.
Management network	1 GbE or 10 GbE network used for federation management. This network must be accessible by the Hypervisor Management System and CLI users. If you are using a VLAN, ensure that the IP address of the Virtual Controller and the IP address of the hypervisor host can access each other.

Organize the cables

About this task

Use the Cable Management Arm (CMA) to organize the power and network cables.

NOTE: Make sure you have sufficient slack in the cables to fully extend the server from the rack until the rails are safely locked in the extended position.

Procedure

1. Insert the outer CMA brackets on the interior sides of both rack flanges.
2. Gather the cables on each side of the server into bundles.
3. Thread the hook and loop straps through the tooled slots on the outer CMA brackets on each side of the server and secure the cable bundles.

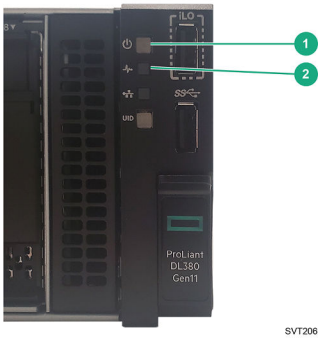
   For more information, see the CMA Installation Instructions supplied in the cable management kit.

Power up the server

Procedure

1. Go to the front of the system.

   HPE SimpliVity 380 Gen11 power and health indicators.



2. Press the Power On/Standby button (callout 1) to power up the server.
3. Watch the health indicator (callout 2) on the front panel to make sure it changes from flashing green to steady green.

NOTE: If an error occurs during server start-up, contact Customer Support (**https://www.hpe.com/support/hpesc**).

Configure the iLO port for remote management

This section contains the following topics:

Configure the iLO port to access the iLO remote console

About this task

You configure the iLO port to access the iLO console through a web browser. The iLO console provides out-of-band remote server management and access to advanced management options. Your configuration steps may include configuring IPv4, modifying the default static IP address, enabling DHCP, or changing the default user name and password.

The server is pre-configured for iLO to obtain the IP address through DHCP. The iLO default user name and password are found on the label attached to the top of the chassis. The user name is `Administrator` and the password is an eight-character alphanumeric string.

Prerequisites

- Your environment meets the requirements for configuring iLO (Integrated Lights-Out) for out-of-band web-based management.
- You have the following information and items:
  - A Windows client laptop computer with a Web browser. You can use a MAC or Linux OS; however, this procedure describes Windows.
  - An Ethernet cable to connect between the laptop and the iLO port on the server.
  - An IP address. The address can be static or assigned by DHCP.
  - A static address for the gateway, subnet mask, and, optionally, up to two DNS servers, which can be static or assigned by DHCP.

NOTE: If you prefer to configure iLO at a later time, you can skip this task and deploy the server using Deployment Manager. See the HPE OmniStack for vSphere Deployment Guide for deployment instructions.

Procedure

1. Connect an Ethernet cable from the Ethernet port on the laptop to the iLO Ethernet port on the rear of the server.

SVT207

2. If necessary, change the IPv4 address of the Ethernet port on your Windows laptop:

a. Open **Network and Sharing Center** in the Control Panel and click **Change adapter settings**.

b. Locate the icon for the Ethernet adapter, right-click it, and then select **Properties**. This is typically a Local Area Connection.

c. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

d. Record the current settings on the **General** tab so that you can restore them later.

e. Check the button labeled **Use the following IP address**.

f. Enter an IP address in the range applicable to your site network environment. For example: 192.168.0.[0-255].

g. Enter a subnet mask of 255.255.0.0.

h. Close the dialogs and exit from **Network and Sharing Center**.

3. Enter the DHCP allocated iLO IP address to access the server.
4. Use the default user name and password found on the label attached to the top of the chassis to log in.
5. If prompted to do so, change the default iLO password according to your site-specific security requirements.
6. Select **Network→iLO Dedicated Network Port or Network→Shared Network Port**.
7. Select the **IPv4** tab.
8. On the **IPv4** tab, enable DHCP or specify a static IP address, subnet mask, default gateway, and so on based on your network environment.
9. Click **Submit** to save the network settings.
10. Connect the iLO port to a switch in the rack.

Connect to iLO and launch the Integrated Remote Console (IRC)

About this task

You connect to iLO through a web browser to launch the Java Integrated Remote Console (Java IRC), which you use to manage each HPE SimpliVity 380 Gen11 server remotely. You can also configure server settings.

NOTE: The Remote Console is compatible with different browsers and versions of Java. If you see errors while launching or using the Remote Console, you might need to try a different browser or Java version. iLO also provides a .NET IRC and an HPE iLO Mobile application for remote access.

Prerequisites

Ensure you have configured the iLO port.

Procedure

1. Log in to any computer that can access the IP address for the iLO web interface.
2. Enter the DHCP allocated iLO IP address into your browser.

   For example: http://192.168.0.120
3. If you haven't changed the default settings, use the default user name and password found on the label attached to the top of the chassis to log in. If you have changed the default settings, use the user name and password you configured.

4. Select **Remote Console→Remote Console**.
5. Click the appropriate launch link for your system.

Server troubleshooting

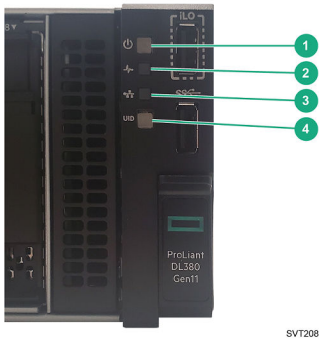
This section contains the following topics:

You can use the diagnostic indicators and LEDs to identify problems with the server hardware. For assistance with resolving hardware problems, such as a component failing, contact Customer Support (**https://www.hpe.com/support/hpesc**).

Diagnostic indicators

The right side of the front panel on an HPE SimpliVity 380 Gen11 server provides diagnostic LEDs that indicate when the server is functioning properly and when a hardware-related error occurs. The indicators can help you correct problems before they affect service levels.

HPE SimpliVity 380 Gen11 diagnostic indicators:



Item	Description	Status
1	Power On/Standby button and system power LED[1]	• Solid green = System on • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present[2]
2	Health LED[1]	• Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical[3]

Table Continued

Item	Description	Status
3	NIC status LED[1]	• Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity
4	UID button/LED[1]	• Solid blue = Activated • Flashing blue: ◦ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress ◦ 4 Hz/cycle per sec = iLO manual reboot sequence initiated ◦ 8 Hz/cycle per sec = iLO manual reboot sequence in progress ◦ Off = Deactivated

[1]When all four LEDs described in this table flash simultaneously, a power fault has occurred.

[2]Facility power is not present, the power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

[3]Facility power is not present, the power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

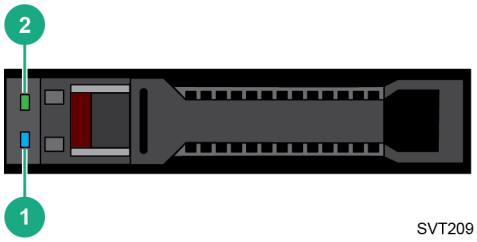
Drive monitoring

The LEDs on the front of each drive indicate when a drive has failed or is failing. If a drive fails, contact Customer Support (**https://www.hpe.com/support/hpesc**) to obtain a replacement drive of the same type, size, and speed.

NOTE: HPE SimpliVity 380 Gen11 platforms may have different drive orientations and form factors but in general use the same LED diagnostic codes.

User and federation data is protected by RAID and stored on the front drives.

- Drives protected by RAID5 can tolerate one drive failure per RAID group without data loss.
- Drives protected by RAID6 can tolerate two drive failures per RAID group without data loss.
- Drives protected by RAID10 can tolerate one drive failure without data loss.
- Drives protected by RAID10Triple can tolerate two drive failures without data loss.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (1 flash per second)	The drive is doing one of the following: • Rebuilding or performing a RAID • Performing a stripe size migration • Performing a capacity expansion • Performing a logical drive extension • Erasing • Spare part activation
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Off	The drive is not configured by a RAID controller or is a spare drive.

Firmware state	Tree view	Event example	Alarm
Failed	Failed	Physical drive S0SDNEABC01131 at slot:1 health state has changed from Healthy to Failed.	HPE SimpliVity 380 Gen11 Physical Drive Health State Error
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the OmniCube fails.	HPE SimpliVity 380 Gen11 SSD Array Critical
Missing	Missing	Physical drive at slot:9 is missing. Drive Set 0 in the SSD Array can tolerate the loss of 1 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 Gen11 SSD Array Warning
Offline	Offline	Physical drive S0SDNEABC01153 at slot:0 health state has changed from Healthy to Offline.	HPE SimpliVity 380 Gen11 Physical Drive Health State Error
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 Gen11 SSD Array Critical
PredictiveFailure	Healthy	Physical drive S0SDNEABC01131 at slot:1 has experienced a high number of predictive failures. Replace it as soon as possible.	HPE SimpliVity 380 Gen11 Physical Drive Predictive Failure
Rebuild	Rebuilding (with a percent complete)	Physical drive S0SDNEABC01153 at slot:0 health state has changed from Offline to Rebuilding.	HPE SimpliVity 380 Gen11 SSD Array - Rebuilding the maximum number of drives
		The SSD array currently has 1 drive(s) rebuilding.	HPE SimpliVity 380 Gen11 SSD Array Critical
Unconfigured, bad	Failed	Physical drive S0SDNEABC01131 at slot:1 health state has changed from Healthy to Failed.	HPE SimpliVity 380 Gen11 Physical Drive Health State Error
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 Gen11 SSD Array Critical
Unconfigured, good	Unconfigured	Physical drive S0SDNEABC01131 at slot:1 has a foreign configuration.	HPE SimpliVity 380 Gen11 Physical Drive Health State Error

Table Continued

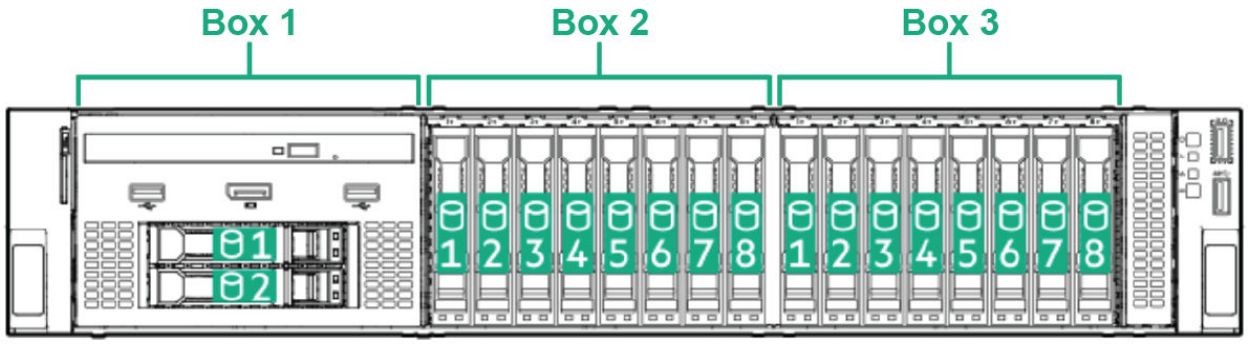
Firmware state	Tree view	Event example	Alarm
		Physical drive S0SDNEABC01131 at slot:1 health state has changed from Healthy to Unconfigured.	HPE SimpliVity 380 Gen11 Physical Drive Foreign Configuration
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 Gen11 SSD Array Critical

Front drive numbering

The front drive boxes are numbered for identification purposes.

The drive numbering sequence, which is reported by the hypervisor manager or HPE OmniStack CLI commands, enables you to identify a specific drive for troubleshooting. For information on the CLI commands, see the *HPE OmniStack Command Reference Guide*.

Boxes without a drive contain a filler and cannot be used to install additional drives.



SVT210

Drive type	HPE SimpliVity 380 Gen11
Boot SSDs	Drive box 1 (universal media bay) if the configuration selects a boot controller that requires separate boot drives
Data SSDs	Drive box 2 and 3 (drive slots 9 - 24)

Power supply monitoring

The LED on the front of each power supply indicates the status of the power supply and when there is a problem, such as a failed power supply. You can also view power supply status in your hypervisor manager. If a power supply fails, contact Customer Support (**https://www.hpe.com/support/hpesc**) for a replacement of the same type and wattage.

SVT213

Each power supply has a status LED that indicates whether power is present or whether a power fault has occurred. The status LED is located to the left of the red latch lever.

Item	Description	Status
1	Power On/Standby button and system power LED[1]	• Solid green = System on • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present[2]
2	Health LED[1]	• Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical

Table Continued

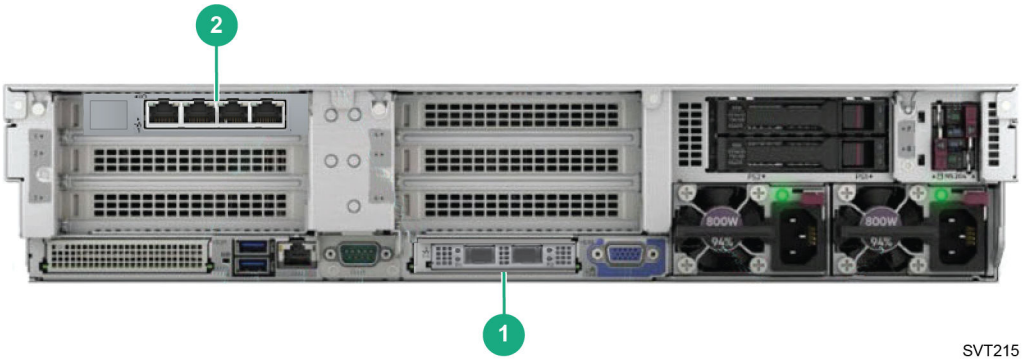
Item	Description	Status
3	NIC status LED[1]	• Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity
4	UID button/LED[1]	• Solid blue = Activated • Flashing blue: ◦ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress ◦ 4 Hz/cycle per sec = iLO manual reboot sequence initiated ◦ 8 Hz/cycle per sec = iLO manual reboot sequence in progress ◦ Off = Deactivated

[1] When all four LEDs described in this table flash simultaneously, a power fault has occurred.

[2] Facility power is not present, the power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

Network interface monitoring

An HPE SimpliVity 380 Gen11 server provides 10 GbE, 10/25 GbE, 100 GbE, 200 GbE and (optionally) 1 GbE network interfaces used for network communication and optional guest virtual machine networks.



NOTE: The 4-port 1 GbE network interface might not be available based on system configuration.

Callout	Type	Port ID	Network
1	10 GbE, 10/25 GbE, 100 GbE, or 200 GbE	1 and 2 (numbered from right to left)	HPE OmniStack Storage, Federation, and, optionally, Management
2	1 GbE (optional)	1 and 2 (numbered left to right)	HPE OmniStack Management
		3 and 4	Guest VM data (optional)

NOTE: For minimum configurations, you can use only the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE interfaces to provide a single redundant path for all three networks: Storage, Federation, and Management. However, you must use VLANs to separate the networks as described in the *HPE OmniStack for vSphere Administrator Guide*.

Interface	LED		State
10 GbE, 10/25 GbE, 100 GbE, or 200 GbE Activity		Off	No network activity
		Flashing green	Connection active **NOTE:** Some network interface cards use different LED colors to denote activity based on the speed of the connection. Refer to your network interface card documentation for details.
10 GbE, 10/25 GbE, 100 GbE, or 200 GbE Link		Off	No network activity
		Solid green	Link connection active
1 GbE Activity		Off	No link detected (cable disconnected)
		Solid green	Connection active
1 GbE Link		Off	No link detected (cable disconnected)
		Solid green	Link connection active

Drive maintenance

This section contains the following topics:

If a disk drive fails, replace it as soon as possible to avoid data loss.

Drive maintenance guidelines

- You can replace a single failed or failing drive without disrupting operations.
- When replacing an encrypted disk drive, the replacement drive must be unsecured. When installed, the replacement drive is secured automatically using the existing Security Key. If the replacement drive is secured with a key not used in the server, you must erase the drive, which destroys all data on the physical disk, before the server can use it.
- Do not remove a drive until you are ready to replace it.
- Replace drives only with drives of the same size, speed, and type. For information on supported replacement drives and the required firmware revision, contact Customer Support (**https://www.hpe.com/support/hpesc**).
- Store drives properly. Store replacement drives in the packaging in which they were shipped. Do not stack drives or place anything on top of a drive.
- Protect drives from electrostatic discharge. Wear an electrostatic wrist strap when handling a drive, unless it is protected from electrostatic discharge.
- Handle drives carefully. Hold a drive only by the plastic part of the carrier or the handle. Do not drop or jolt a drive or force a drive into a drive slot.
- Do not leave a drive slot empty. Each drive slot must contain a drive or a blank carrier. Operating the server with an empty drive slot voids your warranty and support contract.
- Do not remove a drive from its carrier unless instructed by Customer Support (**https://www.hpe.com/support/hpesc**).
- Keep shipping material. Return a failed drive to Customer Support (**https://www.hpe.com/support/hpesc**) in the packaging in which the replacement drive was shipped. Shipping drives in unauthorized packaging may void your warranty.

Drive replacement requires a RAID rebuild, which might take some time to complete on a server that contains many GB or TB of data. The rebuild might proceed faster if you complete these tasks:

- Quiesce I/O or do the replacement operation at a time when I/O is minimal.
- Shut down VMs.
- Migrate VMs to an alternate host.

NOTE: You can use the LEDs to monitor the RAID rebuild status.

For more information about how to complete the tasks, see the *HPE OmniStack for vSphere Administrator Guide*.

Remove a drive

About this task

You remove a solid state drive (SSD) that has failed, or is failing, to replace it with a new drive. Replace a problem drive as soon as possible.

- Do not leave a drive slot empty. Do not remove a failed drive unless you have a replacement drive or blank carrier ready to install.
- If the server (host) is in a federation, using incompatible drives might cause your federation to function incorrectly. Also, performance might be degraded while a drive is defective or missing.

Prerequisites

You have completed these tasks:

- Obtained a replacement drive of the same type, speed, and capacity of the drive you are removing.
- Read the guidelines for maintaining disk drives.
- Read the guidelines for protecting components from electrostatic discharge (ESD).

Procedure

1. Examine the drive LEDs to identify the failed drive.
2. Press the red release latch to release the drive handle.
3. Pull the handle outward to disengage the drive from the slot.
4. Grasp the edge of the plastic drive carrier and then slowly remove the drive from the slot.
5. Place the drive on a surface that is protected from electrostatic discharge.
6. Install the replacement drive or a drive filler.

Install a drive

About this task

You install a drive to replace a failed, or failing, solid state drive (SSD). The replacement drive must be of the same type, speed, and capacity of the drive you are replacing. You can also install a filler panel, since the drive box cannot be empty after the failed drive is removed.

- Do not leave a drive slot empty. Do not remove a failed drive unless you have a replacement drive or blank carrier ready to install.
- If the server (host) is in a federation, using incompatible drives might cause your federation to function incorrectly. Also, performance might be degraded while a drive is defective or missing.

Prerequisites

You have completed these tasks:

- Removed the failed drive from the server.
- Obtained a replacement drive of the same type, speed, and capacity of the drive you are removing.
- Read the guidelines for maintaining disk drives.

- Read the guidelines for protecting components from electrostatic discharge.
- Verified that no backup operations are running.

Procedure

1. Carefully remove the replacement drive, or filler panel, from its packaging.
2. Hold the drive by the edge of the plastic drive carrier.
3. Press the red release latch to release the drive handle.
4. Rotate the handle outward.
5. Align the drive with the guide rails in the drive box.
6. Gently push the drive into the bay until you feel resistance.
7. Simultaneously rotate the handle and press the drive completely into the slot.
8. Examine the LEDs and event messages to ensure the disk drive is operational.

Power supply maintenance

This section contains the following topics:

Each server has two hot plug power supplies. If a power supply fails, replace it as soon as possible.

Power supply maintenance guidelines

Follow these guidelines for maintaining power supplies:

- You can replace a power supply without disrupting operations if an alternate, functioning power supply is installed and connected to power.
- For proper cooling, do not leave a power supply slot open. Do not remove a power supply until you are ready to replace it.
- A server can operate with only one functioning power supply. However, replace a failed or failing power supply as soon as possible.
- Replace a power supply only with a power supply of the same type and wattage. Contact Customer Support (**https://www.hpe.com/support/hpesc**) for replacement power supplies.

Remove a power supply

About this task

You replace a failed, or failing, power supply as soon as possible.

WARNING: Do not leave a power supply slot empty. Do not remove a failed power supply unless you have a replacement power supply that is ready to install.

Prerequisites

You have completed these tasks:

- Obtained a replacement power supply of the same type and wattage.
- Read the guidelines for maintaining power supplies.
- Read the guidelines for protecting components from electrostatic discharge.

Procedure

1. Identify the failed power supply.
2. Power down the server.

3. Disconnect the power cable from the power source and the power supply.
4. Push the red locking handle to the left and then gently pull the power supply handle to remove the power supply from the slot.

Install a power supply

About this task

You install a power supply, or filler panel, to replace a failed or failing power supply.

For full power redundancy across all servers, you must have a rack with two power distribution units (PDUs) feeding separate power outlet strips with enough current and sufficient outlets to connect both power supplies in a redundant fashion. Power supplies can operate in either a Balanced mode (power equally spread across both power supplies) or High Efficiency mode (power only running mainly through one power supply) so plan the size of your PDUs accordingly.

Prerequisites

You have completed these tasks:

1. Obtained a replacement power supply of the same type and wattage.
2. Removed the failed power supply from the server.
3. Read the guidelines for maintaining power supplies.
4. Read the guidelines for protecting components from electrostatic discharge.

Procedure

1. Carefully remove the replacement power supply from its packaging.
2. Slide the power supply into the empty bay until the red latch engages.
3. Ensure that the power supply is fully inserted and locked in place by the red, spring-loaded clip.
4. Connect and secure the power cable to the new power supply and to the power source.
5. Ensure that the power cables are fully inserted at both ends.
6. Power up the server.
7. Examine the LEDs and event messages to ensure the power supply is operational.

Network cabling options

This section contains the following topics:

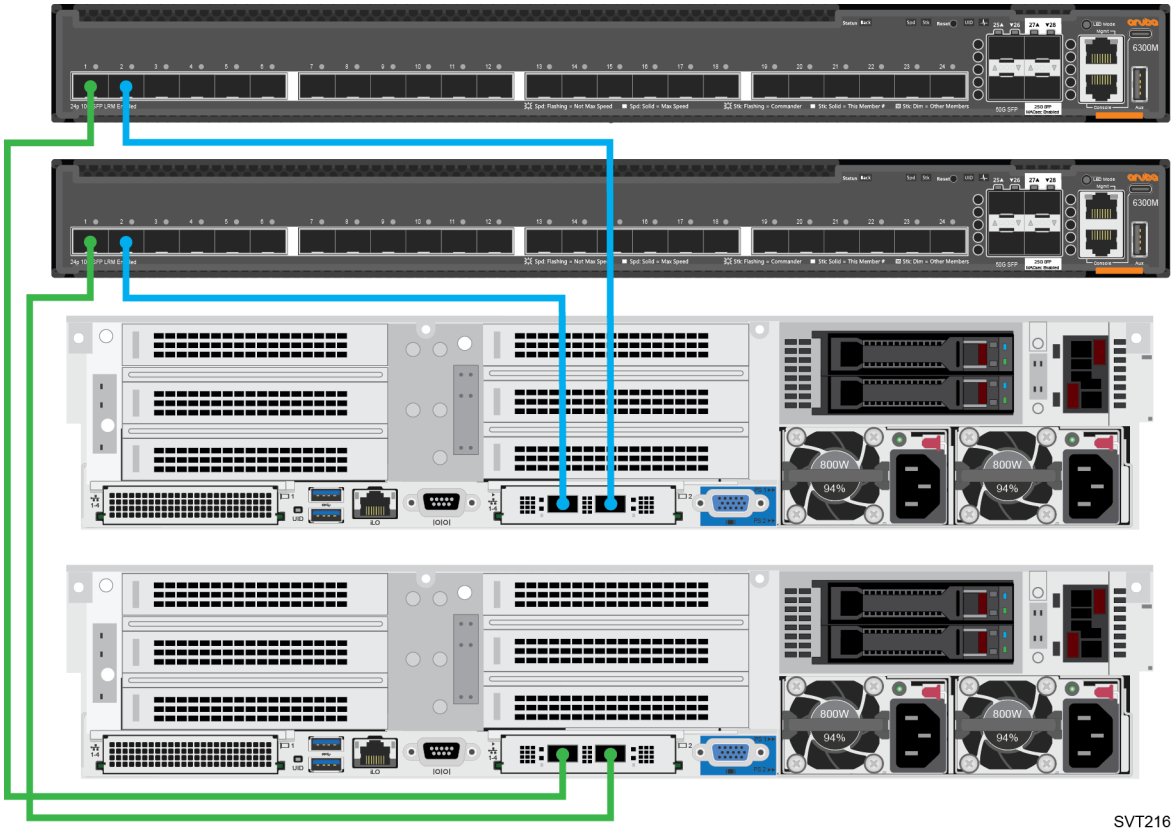
- **10 GbE, 10/25 GbE, 100 GbE, or 200 GbE only network configuration**
- **Direct-connected network configuration**
- **Switch-connected network configuration**

There are different options for cabling the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE, and 1 GbE interfaces used for the HPE OmniStack Storage, Federation, and Management networks. You select the configuration that best meets the needs of your environment.

10 GbE, 10/25 GbE, 100 GbE, or 200 GbE only network configuration

The minimum network configuration for a federation with two HPE SimpliVity 380 Gen11 servers uses redundant 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE connections to two corresponding switches. It uses VLANs to separate the HPE OmniStack Storage, Federation, and Management networks. This configuration does not use the 1 GbE ports for the management network.

The following figure shows a sample configuration. On your model, additional cards might have been added to the secondary PCIe riser. The 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE NIC might be installed in a PCIe riser slot or OCP 3.0 slot. This example uses a 10 GbE,10/25 GbE, 100 GbE, or 200 GbE NIC in the OCP 3.0 slot 1 (below the secondary riser slots).



SVT216

Configuration guidelines for each server:

- Connect the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE SFP/SFP+ ports to different corresponding switches.
- Use VLANs on each switch according to the network separation rules specified in the *HPE OmniStack for vSphere Administrator Guide*.

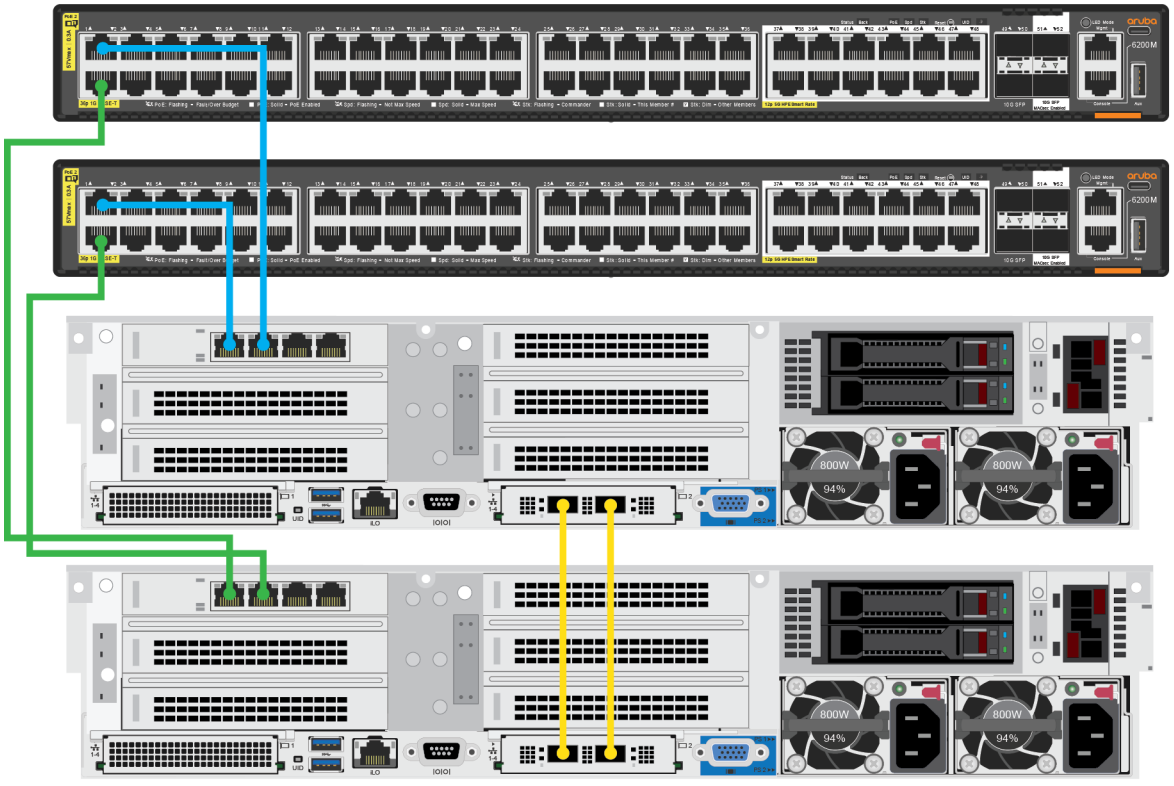
Direct-connected network configuration

A direct-connected network configuration for a federation with two HPE SimpliVity 380 Gen11 servers uses the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE connections for the HPE OmniStack Storage and Federation networks. Redundant 1 GbE connections to 1 GbE switches provide the Management network.

The following figure shows a sample configuration. On your model, additional cards might have been added to the secondary PCIe riser. The 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE NIC might be installed in a PCIe riser slot or OCP 3.0 slot. This example uses a 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE NIC in OCP 3.0 slot 1, and a 1 GbE NIC in PCIe primary slot 1.

NOTE:

- Your system must have a 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE connection and the optional 1 GbE NIC similar to the one depicted in the following diagram. Although the location of the 1 GbE interface on your system might differ from the diagram, the port-to-port wiring is identical.
- You cannot use direct connections for the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE ports if you have three or more systems in a datacenter.



SVT217

Configuration guidelines for each server:

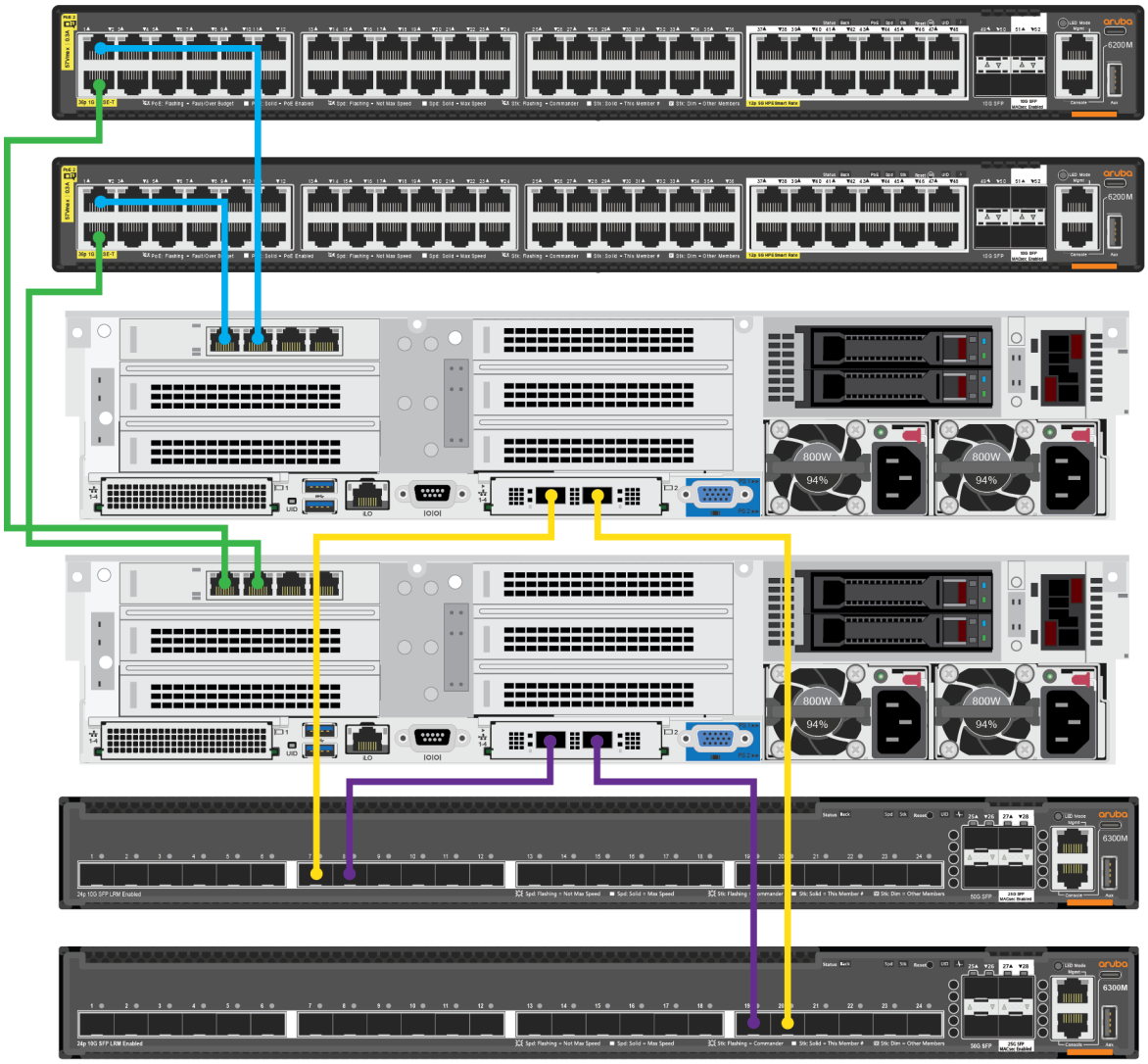
- Directly connect the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE network interfaces.
- Connect the 1 GbE network interfaces to different 1 GbE switches.

Switch-connected network configuration

The switch-connected network configuration for a federation with two HPE SimpliVity 380 Gen11 servers uses redundant connections to 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE switches for the HPE OmniStack Storage and Federation networks. It uses redundant 1 GbE connections to 1 GbE switches for the Management network.

The following figure shows a sample configuration. The 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE NIC might be installed in a PCIe riser slot or OCP 3.0 slot. This example uses a 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE NIC in OCP 3.0 slot 1, and a 1 GbE NIC in PCIe primary slot 1. On your model, additional PCIe cards might be installed in the secondary riser.

NOTE: Your system must have a 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE connection and an optional 1 GbE NIC similar to the one depicted in the following diagram. Although the location of the 1 GbE interface on your system might differ from the diagram, the port-to-port wiring is identical.



SVT218

Configuration guidelines for each server:

- Connect the 10 GbE, 10/25 GbE, 100 GbE, or 200 GbE network interfaces to different corresponding switches.
- Connect the 1 GbE network interfaces to different 1 GbE switches.

Appendix A: Support and other resources

- Support and other resources
- Documentation feedback

Support and other resources

Accessing Hewlett Packard Enterprise Support:

For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

https://www.hpe.com/info/assistance

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:
  - My HPE Software Center: Software downloads

    https://www.hpe.com/software/hpesoftwarecenter
- To subscribe to eNewsletters and alerts:

  https://www.hpe.com/support/e-updates
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center More Information on Access to Support Materials page:

  https://www.hpe.com/support/AccessToSupportMaterials

  IMPORTANT: Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard

Enterprise, which initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

HPE Get Connected

https://www.hpe.com/services/getconnected

HPE Pointnext Tech Care

https://www.hpe.com/services/techcare

HPE Datacenter Care

https://www.hpe.com/services/datacentercare

Warranty information

To view the warranty information for your product, see the links below:

HPE ProLiant Servers and Options **https://www.hpe.com/support/ProLiantServers-Warranties**

HPE Enterprise and Cloudline Servers **https://www.hpe.com/support/EnterpriseServers-Warranties**

HPE Storage Products **https://www.hpe.com/support/Storage-Warranties**

HPE Networking Products **https://www.hpe.com/support/Networking-Warranties**

Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center: **https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts**

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at: **https://www.hpe.com/info/reach**

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see: **https://www.hpe.com/info/ecodata**

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see: **https://www.hpe.com/info/environment**